Beemster Polder (The Netherlands)

No 899

Identification

Nomination	Droogmakerij de Beemster (The Beemster Polder)
Location	Province of Noord-Holland
State Party	The Netherlands
Date	26 June 1998

Justification by State Party

De Beemster, a clearly defined, systematically laid out reclaimed land, a complex designed and created as a cultural landscape by man, is a site of outstanding universal value from the point of view of history, art, (landscape) architecture, science, and learning, as well as being a monument in its own right, representing a unique masterpiece of human creative genius. **Criterion i**

It is also an outstanding example of an architectural ensemble and physical environment that illustrates a significant stage in the history of land colonization in The Netherlands and elsewhere since the 17th century. The historic physical environment of The Netherlands has been brought to life and developed through ever-improved developments in civil water-management techniques. It is a man-made landscape that constitutes a site in a river delta with large areas consisting of fenlands. **Criterion ii**

De Beemster was drained, cultivated, and colonized - a deliberate intervention in this undeveloped region - at the same time as the city of Amsterdam first expanded during the 17th century. This expansion was supported by the *nouveaux riches*, the merchants and regents of Amsterdam, and was carried out by surveyors, city architects, and administrators. They were involved in the expansion of Amsterdam in 1613 as well as in De Beemster polder. At the time, town-planning and architectural principles were applied that even today show a close relationship to the classical and Italian theories and treatises of Vitruvius, Palladio, and others concerning radial cities, about the *città ideale*, about checkerboard patterns, and about laying out straight, safe, paved, and planted roads. **Criterion iv**

There were two main reasons for creating De Beemster: to control recurrent flooding and reclaim new agricultural land, and also to find a safe way to invest funds. It had been determined as early as 1611 that the region should also realize the pastoral classical nature and agriculture model, because of its spatial design with lanes, green compartments ('chambers'), pleasure gardens for the wealthy merchants of Amsterdam, and plantations.

De Beemster with its rational geometric layout was designed as an architectural landscape. The theory of 17th century urban development and agricultural engineering for reclaiming land was based on the 'ideal of the straight line', and in addition fell back on old-fashioned principles such as (geometric) structure, planning and linear monumentality, symmetry, harmony, and order - a landscape in which the square, the basic pattern from analogy of the theories of Scamozzi, induces balance and diffusion. **Criterion vi**

Category of property

In terms of the categories of cultural property set out in Article 1 of the 1972 World Heritage Convention, this is a. *site*. It is also a *cultural landscape* as defined in paragraph 39 of the *Operational Guidelines for the Implementation of the World Heritage Convention*.

History and Description

History

Lagoons and deltas take up the greater part of the Dutch land. Over the centuries this land was made habitable by means of land reclamation and protection against the water. Of the 3.4 million ha which now constitute The Netherlands, a third is below sea level. If no dikes had been constructed and if there were no drainage of excess water, 65% of The Netherlands of today would be under water.

The northern coastal area of the Kop van Noord-Holland and along the Wadden Sea was once a virtually interconnected series of mud-flats that extended to south-western Denmark. The earliest habitation was on knolls, which offered protection from the water before sea walls and dikes had been constructed. The need to 'create' new land arose from the damage caused by the continual flooding, with the added bonus of obtaining excellent agricultural land.

Five factors influenced on the process of land reclamation: the availability of capital for investment, stable political and economic relationships, and the availability of technical means, entrepreneurial spirit, and good prices for farmland.

The battle against the water began in the northern part of Noord-Holland, in the area situated above the former open waters of the IJ, by keeping out the sea-water. From the 16th century onward efforts were geared toward draining lakes and ponds situated further inland. Land reclamation took place by draining the big lakes, particularly in the northern part of Holland. This process was made possible by the drastic improvement in pumping and draining technology using windmills driving waterwheels. From the end of the Middle Ages the entire north of the IJ (*Hollands Noorderkwartier*) was enclosed within a ring of dikes; however, considerable areas of water survived within the individual polders and the centre of the region was still occupied by the large Schermer, Purmer, and Beemster lakes. More and more land could be reclaimed when the

technique of building dikes with discharging structures (sluices) was developed. These developments are sometimes called the delta-works of the 17th and 18th century.

Wind power was used to drain the polders as early as the 15th century, through the use of wind-driven water-pumping mills. The 16th century development of the revolving cap on windmills made it possible to drain the larger lakes. From the beginning of the 17th century onward it became possible to drain large bodies of water, such as the Beemster, by using networks of three or four windmills. The invention of this process is attributed to Simon Stevin (1548-1620).

The initiative to drain the water of the Beemster was taken by a number of wealthy regents and merchants from Amsterdam and a number of high-ranking civil servants in The Hague. In 1607 a patent was granted by the States of Holland to sixteen people who founded the *Beemstercompagnie* to provide the requisite capital. The patent speaks of "work such, that it is possible to make Water into Land." In total there were 123 investors, who received a return of 17% on their investment upon completion of the polder in 1612.

As a preliminary to the work, a map of the Beemster and its environs was made by the surveyor Pieter Cornelisz. Cort of Alkmaar, to determine the possible consequences of diking and to establish how to drain the Beemster itself. After Cort's death in 1608, he was succeeded by Lucas Jansz. Sinck, land surveyor in Amsterdam, who laid out the first dike section for the Beemster polder. In 1608 the dike section between Purmerend and Neck was sub-contracted, as was the drainage canal to the Zuiderzee.

It was decided in 1611 that Sinck would draw in the roads and canals. In that same year a start was made on laying out the canals and roads to prepare for the allotment of land. Within the allotments the owners would be allowed to dig as many canals and ditches as they saw fit. The blocks between the roads were to have a surface area of 400 *morgen*, divided by canals into four blocks of 100 *morgen* (1 morgen = *c* 0.85ha). It was finally decided to divide the land into five allotments. The allotments were made in "packages"; the value of each package compared to the others would be the same, as poor soil was compensated by good.

Shovels and pickaxes were used in the basic engineering works; the foundations for sluices and windmills were sunk using manual pile-driving installations operated by 30-40 people. Reclamation was effected by means of windmills. The reclamation of the Beemster ultimately took place with the construction of fifteen windmill networks.

The polder finally became a reality on 19 May 1612, and in August 1612 the plots of land were allotted. The bye-law of 1616 includes conditions on "plants and trees." This created an "ideal" landscape from 1620 onward with the planting of the lanes with trees. First only the northern and western side of the roads were planted, so that the sun could dry the roads, which were still waterlogged.

After the conversion from drainage by wind to steam power in the late 1800s, the water was discharged into the belt canal by three pumping stations. In the 20th century these were converted to diesel power. De Beemster is now drained by the fully automated electric pumping station Wouter Sluis along the Westdijk (Middensloot) and by the diesel pumping station Jacobus Bouman along the Oostdijk (Oosthuizersloot).

Description

The Beemster polder is situated to the north of Amsterdam and to the west of Purmerend. De Beemster was formerly a chain of peat bogs diked in by means of ring-dikes and protected against the sea on the western side by the dunes of Kennemerland. The Zeevang to the east of De Beemster and the Waterlant and Zaanstreek to the south were encircled by ring-dikes. In between there were stretches of water, such as the Beemster and the Schermer and the wide inlet, the Ye.

At high tide the water of the Zuiderzee flowed freely into the Beemster via the Korsloot. The Beemster in turn flowed into the Purmer via the Weere, and into the Schermer through the Zwet at Schermerhoorn and into the Starnmeer via the Spijkerboor. At some time in the early 14th century the Beemster was closed off on the north-eastern side and no longer had an opening to the Zuiderzee at that point.

The former Beemstermeer, which was once the largest open water of the Noorderkwartier of The Netherlands, was created by the gradual overflow and by low-lying peat land crumbling away after the Zuiderzee had found a way through to this area. This process was completed by around 1100. The current size of the Beemster Polder indicates the size of this body of water at the time.

The land was allocated in oblong lots of 180m by 900m. The short sides of the lots are connected by a drainage canal and an access road. Five such lots formed a unit, a module of 900m square, and four of these units in turn formed a large square of 400 *morgen*. The direction of the squares corresponded as much as possible with the original direction of the former shorelines of the lake so as to avoid creating unusable lots along the shoreline.

- *Buildings in De Beemster*

The "bell-jar" farm *(stolpboederij*) with its typical square base fits in particularly well in the geometric pattern of the polder. The farm in itself can be considered a geometric modular unit with barns, hay and seed stores, stables, and other outbuildings.

There is also a number of country homes with their formal gardens, intended as pleasure farms (*lusthoven*) and out-of-town houses which served as summer residences for urban proprietors, mainly from Amsterdam. Decoration and practical use interchanged in the design of orchards, arbours, kitchen gardens, and footpaths. However, most of these were demolished in the 18th century, and all that remains is a number of monumental entry gates to farms built at later dates.

- *Agriculture in De Beemster*

The drained land was originally used for cereal production, but as time went by it was gradually turned into pasture land for cattle because the high water table and soil conditions were not suitable for arable farming. Until the 1880s, De Beemster was primarily used for cattle breeding. With the introduction of steam-driven pumping stations it was possible to drain more deeply and to remove more

water, and this resulted in an enormous expansion into horticulture.

The current picture is a mixed one of arable land, pastures for dairy farming, greenhouse horticulture, and fruit farming, whilst around 200ha are used for bulb-growing.

- *Villages and roads in De Beemster*

Of the five residential centres originally projected for De Beemster in the 17th century, only Midden-, West-, and Noordbeemster were actually developed as such; Zuid- and Oostbeemster became Zuidoostbeemster. In addition, a number of other neighbourhoods developed.

The main watercourses from north to south are the Schermerhornersloot, Oosthuizersloot, Middensloot, Draaioordersloot, and Zuidersloot, which run parallel to each other. From east to west are the Oostersloot, Beetstersloot, Jispersloot, and Vrouwsloot, which also run parallel to one another.

The road layout is rigidly linear, conforming with the geometric layout of the polder. In the middle there is the Middenweg, which runs north-east to south-west. Parallel to this are the Purmerenderweg, the Nekkerweg, and the Jisperweg. At Middenbeemster, the Middenweg intersects the Rijperweg, which runs north-west to south-east. Parallel to the Rijperweg are the Mijzerweg (the most northerly road), the Vrouwenweg (formerly the Westmyserpad), the Oosthuizerweg, the Hobrederweg, the Rijperweg, and the Zuiderweg (the most southerly road).

Of the polder roads, the Wormerweg has retained its old profile. The trees along the Vrouwenweg create a particularly impressive picture. There are no trees on the verges of the dikes along the canal and belt-canal alongside the Beemsterringvaart because of their damming function. After the Second World War, poplars were planted on the dike. They form a prominent screen, distinctively demarcating the polder in the open landscape of the Noorderkwartier.

Middenbeemster, situated at the intersection of the Middenweg and the Rijperweg, is the principal town of De Beemster. An open rectangular space, the former cattle market, can be seen at the four arms of these cross-roads. The Reformed Church, built after 1621, is located in the south-eastern corner. A former smithy, a school, and the Heerenhuis (manor house) are also placed around this square. The monumental bell-jar farms along the Middenweg (the Lepelaar, the Eenhoorn, and the Volgerweg) are unique elements outside the historic village centre.

Westbeemster was originally planned at the intersection of the Jisperweg and the Hobrederweg as an agrarian hamlet. The church and the cemetery were placed to the north of the intersection. The buildings are mainly residential housing, forming a ribbon development along the Jisperweg. The Roman-Catholic community of De Beemster established itself here and a large Neo-Gothic church, a convent, and a few Roman-Catholic schools were built in the 19th and 20th centuries.

Noordbeemster, also conceived as an agrarian hamlet, lies to the north of Middenbeemster, along the Middenweg. The labourers' homes are single-storey buildings with pitched or mansard roofs.

Zuidoostbeemster has always been a horticultural area primarily geared toward Amsterdam, and has expanded considerably. The village is situated at the intersection of the Purmerenderweg and the Zuiderweg. From the middle of the 19th century retired farmers from De Beemster settled here, and their single-storey homes (*rentenierswoningen*) along the Purmerenderweg and the Zuiderweg are testimony to this.

Klaterbuurt was originally a working-class area. The homes of the farmhands are sometimes called "kitchens." A few historic bell-jar farms and the stables of a former country estate which has been converted into a farm, Rijperweg 17, are the noteworthy features in this area.

Halfweg, located along the Volgerweg and the intersecting Nekkerweg, is also an old working-class area. The labourers' homes consist of two houses under a single pitched roof, built parallel to the road.

Five forts, an inundation sluice, and two dam sluices belonging to the *Stelling van Amsterdam* (Defence Line of Amsterdam) are located in the southern part of De Beemster.

- *Water management of De Beemster polder*

A surface area of 7220ha of De Beemster produces water. There are height differences within the polder. A band runs from east to west in the middle of the polder, which is 50cm lower than the adjacent areas. The average height of the low area is 3.80m below Mean Sea Level, with large areas up to 4.00m below; the higher areas are 3.00 metres below. The polder is surrounded by the dike, which in turn is situated higher than the dikes on the other side of the belt canal. This construction was deliberately chosen to safeguard the large financial investment in the polder in the event that the Zuiderzeedijk gave way.

The current Beemsterringvaart (Beemster Belt Canal) and part of the Groot Noordhollandsch Kanaal (1819-24) are part of the Schermerboezem (Schermer Reservoir). The reservoir discharges through both natural and manmade watercourses into the Wadden Sea (near Den Helder), the IJsselmeer (via the Naamsloot and at Lutje Schardam), and the Noordzeekanaal (the Channel). Water is supplied mainly from the IJsselmeer.

De Beemster is divided into three departments, each with its own water level: the Bovenpolder, the Middenpolder, and the Arenbergerpolder. There are two lower-lying areas in the Middenpolder - the Hoge Kilpolder and the Lage Kilpolder. Summer and winter water levels vary between 10cm and 30cm. The main watercourses of the various sections are connected by means of culverts, enabling the water of the higher-lying sections to flow to the lower, directly drained sections.

Six inlet sluices in the 45km long ring-dike let in water in the summer. The canals around the forts are fed by four inlet sluices, in addition to the inundation sluice. There is a separate inlet sluice for Kruisoord or Hoogland in the north-eastern section.

Management and Protection

Legal status

At State level, the 1988 Monuments Act defines as State Monuments "everything constructed over at least fifty years ago that is of public importance because of its beauty, its importance to science, or its cultural-historical value." The State Monument Register extends to townscapes, for which there must be zoning plans drawn up by local authorities under the provisions of the 1985 Rural Development Act. Currently 60 monuments in the Municipality of Beemster, which corresponds exactly with the polder, are protected monuments, and a further list of seventeen has been submitted for consideration.

There is provision at regional, provincial, and municipal level for the preparation and implementation of comprehensive land-use and zoning plans, which are regularly updated. Cultural heritage protection forms an integral part of these plans. The Beemster Polder forms part of the National Central Landscape of Noord-Holland, as defined in the 1991 Waterland Regional Plan.

The 1996 Monument Decree of the Province of Noord-Holland covers monuments, buildings, and townscapes and is directly applied to the Beemster Polder. In 1991 the Municipality of Beemster adopted its own Monument Decree; this was updated in 1994.

Management

Management at different levels, in accordance with zoning and land-use plans, is shared by the Municipality of Beemster, the Provincial Administration of Noord-Holland, and the Waterschap De Waterlanden.

The last-named is a water board of a type that is unique to The Netherlands. It was created in 1981 following a merger of a number of water boards, and is in charge of water management in an area of *c* 35,000ha, including De Beemster. One of its special duties is to manage the planting of trees along the public roads of De Beemster.

State protected monuments are the concern of the Netherlands Department for Conservation (*Rijksdienst voor de Monumentenzorg*), an agency of the Ministry of Education, Culture and Science. The Association for the Conservation of Nature Monuments in The Netherlands (*Vereniging tot Behoud van Natuurmonumenten in Nederland*) manages the forts of the Stelling van Amsterdam.

All these bodies have programmes of regular and systematic monitoring of conservation and protection measures within their respective competences.

The boundaries of the nominated area are clear-cut and logical, being based on the functional dikes and canals created in the early 17th century when the Beemster project was completed and never changed. There is a logical and adequate buffer zone, comprising the North Holland Canal and other polders (including the historic town of Rijp), in which protection is provided under the Dutch legislation listed above.

Conservation and Authenticity

The Beemster Polder is a living organic landscape that has evolved over nearly four centuries and continues to play an important role in the economic life of The Netherlands. With changing social and economic conditions certain elements, such as the pleasure farms and windmills, have disappeared, whilst others have changed their functions. There has been a shift from primarily arable farming to a mixed economy, with emphasis on dairy farming and horticulture, which has changed certain aspects of the landscape.

However, the basic structure of dikes, canals, roads, and human settlements laid down in the early 17th century remains intact and authentic, since any fundamental disturbance would put the physical integrity of the entire region in jeopardy.

Evaluation

Action by ICOMOS

An ICMOS expert mission visited the Beemster Polder in January 1999. ICOMOS also benefited from the expertise of its International Scientific Committee on Historic Gardens and Sites.

Qualities

The Beemster Polder represents a very important event in the history of land reclamation. It combines the genius of the Dutch water engineers, who were to carry out similar reclamation projects in many parts of the world, with an intellectual concept, that of the fully planned architectonic landscape, that stems from the classical and Renaissance ideal of the "ideal city," imposing both spatial and social order upon the landscape and fusing natural and manmade elements into an integrated and ordered whole. As such it had a profound influence on subsequent reclamation and landscaping projects throughout Europe and beyond.

Comparative analysis

The example of the Beemster Polder was followed rapidly by other projects in The Netherlands in the 17th century, occasioned by the pressures created by a rapidly expanding population. It was to be adopted as a model for the ambitious 20th century reclamation project for draining the Zuiderzee/IJsselmeer. None of these, however, can be considered to compare with the Beemster Polder because of the latter's intellectual and technological creativity. advanced approach.

Brief description

The Beemster Polder is the oldest area of reclaimed land in The Netherlands, dating from the early 17th century. It has preserved intact its regular landscape of fields, roads, canals, dikes, and settlements, laid out in accordance with the principles of classical and Renaissance planning.

Recommendation

That this property be inscribed on the World Heritage List on the basis of ***criteria i, ii, and iv***:

Criterion i The Beemster Polder is a masterpiece of creative planning, in which the ideals of antiquity and the Renaissance were applied to the design of a reclaimed landscape.

Criterion ii The innovative and intellectually imaginative landscape of the Beemster Polder had a profound and lasting impact on reclamation projects in Europe and beyond.

Criterion iv The creation of the Beemster Polder marks a major step forward in the interrelationship between humankind and water at a crucial period of social and economic expansion.

ICOMOS, September 1999